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PC894 U.S. PTO

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Large Entity)***(Only for new nonprovisional applications under 37 CFR 1.53(b))*Docket No.  
769-264

Total Pages in this Submission

**TO THE ASSISTANT COMMISSIONER FOR PATENTS**Box Patent Application  
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

**METHOD OF MANUFACTURING CARRIER WEB ZIPPER FOR GUSSET BAGS**

and invented by:

Steve Ausnit

PC926 U.S. PTO  
09/678890

10/04/00

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Enclosed are:

**Application Elements**

1. ☒ Filing fee as calculated and transmitted as described below
2. ☒ Specification having eight (8) pages and including the following:
  - a. ☒ Descriptive Title of the Invention
  - b. ☐ Cross References to Related Applications *(if applicable)*
  - c. ☐ Statement Regarding Federally-sponsored Research/Development *(if applicable)*
  - d. ☐ Reference to Microfiche Appendix *(if applicable)*
  - e. ☒ Background of the Invention
  - f. ☒ Brief Summary of the Invention
  - g. ☒ Brief Description of the Drawings *(if drawings filed)*
  - h. ☒ Detailed Description
  - i. ☒ Claim(s) as Classified Below
  - j. ☒ Abstract of the Disclosure

# UTILITY PATENT APPLICATION TRANSMITTAL (Large Entity)

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## Application Elements (Continued)

3. ☒ Drawing(s) (when necessary as prescribed by 35 USC 113)
- a. ☐ Formal Number of Sheets \_\_\_\_\_
- b. ☒ Informal Number of Sheets two (2)
4. ☒ Oath or Declaration
- a. ☒ Newly executed (original or copy) ☐ Unexecuted
- b. ☐ Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
- c. ☒ With Power of Attorney ☐ Without Power of Attorney
- d. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (usable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. ☐ Computer Program in Microfiche (Appendix)
7. ☐ Nucleotide and/or Amino Acid Sequence Submission (if applicable, all must be included)
- a. ☐ Paper Copy
- b. ☐ Computer Readable Copy (identical to computer copy)
- c. ☐ Statement Verifying Identical Paper and Computer Readable Copy

## Accompanying Application Parts

8. ☒ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(B) Statement (when there is an assignee)
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure Statement/PTO-1449 ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Acknowledgment postcard
14. ☒ Certificate of Mailing
- ☐ First Class ☒ Express Mail (Specify Label No.): EK943361978US

# UTILITY PATENT APPLICATION TRANSMITTAL (Large Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

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## Accompanying Application Parts (Continued)

15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)

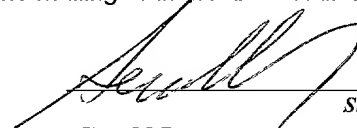
16. ☐ Additional Enclosures (please identify below):

## Fee Calculation and Transmittal

### CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	9	- 20 =	0	x \$18.00	\$0.00
Indep. Claims	3	- 3 =	0	x \$78.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$ 710.
OTHER FEE (specify purpose) <u>Recordation of Assignment</u>					\$40.00
TOTAL FILING FEE					\$ 750.

- ☐ A check in the amount of \_\_\_\_\_ to cover the filing fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge and credit Deposit Account No. **50-1145** as described below. A duplicate copy of this sheet is enclosed.
- ☒ Charge the amount of **\$ 750.00** as filing fee.
  - ☒ Credit any overpayment.
  - ☒ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
  - ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).



Signature

Dated: October 4, 2000

Gerald Levy  
Registration No. 24,419  
Pitney, Hardin, Kipp & Szuch LLP  
711 Third Avenue - 20th Floor  
New York, NY 10017  
(212) 687-6000

cc:

## METHOD OF MANUFACTURING CARRIER WEB ZIPPER FOR GUSSET BAGS

### BACKGROUND OF THE INVENTION

This invention relates to methods of manufacturing carrier webs bearing zipper profile for use in making reclosable zipper bags with gusseted sides.

Heretofore reclosable plastic bags with gusseted sides have been made from plastic sheet having essentially uniform thickness for the front, rear and side walls including the gusset areas. While such side gusset bags featuring zippers have been produced, they have never provided a bag that could be opened to the full width of the gusset and also be fully closed by the zipper. In copending application Serial No.\_\_\_\_\_, filed August 25, 2000, entitled GUSSETED ZIPPER BAG, a reclosable bag with gusseted sides which overcomes the above mentioned problem is disclosed. This bag makes use of a carrier web bearing discrete sections of zipper profile.

### SUMMARY OF THE INVENTION

The present invention concerns a new method of manufacturing carrier web bearing discrete sections of zipper profile for use in the manufacture of such gusseted zipper bags. One object is to produce for gusseted zipper bags a carrier web bearing intermittent zipper segments where the gusseted area to be captured by the mated zipper elements is thinner than the original bag film. A further object is to attach these mating zipper profile elements to the carrier web while maintaining the flanges of the mating elements separate and unsealed from each other.

The new method provides for discrete zipper sections to be attached to a carrier web at predetermined intervals lengthwise along the carrier web, which zipper sections may be mating profile elements or may comprise a unisexual element that is folded such that one part releasably engages the other part.

The disclosure further includes a method of folding these elements along the longitudinal axis of the carrier strip to provided mated zipper profiles.

### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a side elevation schematic view partially in section of an apparatus for forming a carrier web bearing intermittent segments of zipper profile;

Fig. 2 is a sectional view taken along reference lines 2-2 of Fig. 1;

Fig. 3 is a sectional view taken along reference lines 3-3 of Fig. 1;

Fig. 4 is an elevation view partially in section of a second embodiment of the apparatus for manufacturing a second embodiment of the carrier web carrying intermittent zipper profiles;

Fig. 5 is a sectional view taken along reference lines 5-5 of Fig. 4;

Fig. 6 is a sectional view taken along reference lines 6-6 of Fig. 4; and

Fig. 7 is a sectional view taken along reference lines 7-7 of Fig. 4.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In Figure 1 the apparatus 10 has, at the right side of the drawing, drum 11 on which is wound a continuous strand of mated zipper profile 12. Moving to the left and downstream from this drum or source 11 of zipper profile are the following components: zipper

drive 13, cutting station 14, bar seal station 22, further seal station 24, carrier web drive 26 and take-up spool 28.

Beginning at the drum 11, the zipper drive delivers zipper 12 to cutting station 14 for cutting a segment or length of zipper profile. Adjacent drum 11 and below the cutting station is drum 16 on which is wound a supply of lower carrier web 17 in the form of a continuous plastic strip.

This lower carrier web 17 is fed to underlie the segment of zipper profile, and at station 18 the cut off segment of profile is tack sealed by sealer 19 to the carrier web. Next is drum 20 from which unwinds upper carrier web 21 which is fed to bar seal station 22 where the mating portions of the zipper are joined to the upper and lower carrier webs respectively. Next downstream is further seal station 24 (to be described later), and finally carrier web drive 26 pulls the zipper/carrier web combination 27 and directs it onto take-up spool 28 for future use in the manufacture of gusseted bags.

Figs. 2 is a sectional view taken through along lines 2-2 of Fig 1 slightly downstream of cutting station 14, showing how the mating profiles are guided and how the flanges of the mating profile elements are separated. The zipper 12 consists of male and female parts 12M and 12F respectively which are joined in the usual manner by interlocking the profile elements. Male zipper 12M with its flange 33 and female zipper 12F with its flange 34 are separated by guide plate 30 above which and below which the male and female flanges 33, 34 ride. A lower plate 29 which serves as an anvil cooperating with knife 15 is provided below guide plate 30 and above the feed-off of lower carrier web 17.

Zipper drive 13 delivers zipper profile to the area 18 where tack seal 19 tacks the profile to lower carrier web 17, and knife 15 cooperating with anvil 29 severs the trailing end of

a segment of zipper profile from the front end of the following segment. The lower carrier web then moves the zipper profile segment further downstream to station 22 where upper carrier web 21 delivered from drum 20, is positioned to overlie said zipper segment along with the lower carrier web below it, all of which is now situated between seal bars 32 and 35 at station 22.

The bar seal station 22 is further illustrated in Fig. 3 wherein upper carrier web 21 is below upper seal 32 and above the flange 33 of the male profile element 12M. The flanges 33 and 34 of the upper and lower zipper elements being separated by guide plate 30.

As evident, when the seal bars 32, 35 converge, upper carrier web 21 becomes sealed to male zipper flange 33 and lower carrier web 17 becomes sealed to flange 34 of female zipper, while the two flanges 33, 34 remain separated from each other because of the guide plate between them, which prevents them from being sealed together. In addition seal bars 32 and 34 are notched in the areas of the male and female profiles so as to prevent any accidental sealing of the profiles to each other. Downstream from seal station 22 is carrier web drive 26 which pulls the resulting carrier web 27 comprising continuous webs 17 and 21 with the intermittently spaced zipper elements, where the male and female profile elements are releasably interlocked together, and the male and female elements respectively are permanently joined respectively to the upper and lower carrier webs 21, 17.

For the sake of clarity and simplicity, Fig. 4 and other figures herein, having certain components substantially the same as components in Fig. 1, will use the same reference numbers for such components. Accordingly, in Fig. 4 there is drum 11 with a continuous supply of zipper 11Z the profile of which engages with itself. Such profile is depicted schematically in Fig. 5 as an array of six spaced-apart arrows, which will be discussed in further detail later.

Downstream of drum 11 in Fig. 4 is zipper drive 13 which directs the zipper to cutting station 14 and adjacent to tack seal station 18 where the zipper is tack sealed to lower carrier web 17. Thereafter, seal bar 34 secures the lower carrier web 17 to the zipper. In this instance the heat delivered by the seal bar is closely controlled to prevent distorting the interlocking elements. At folding station 42 the zipper and its carrier web are folded about their central longitudinal axis as further schematically indicated in Fig. 6 so as to cause one half of the profile of the zipper to interlock with the other half.

Upon complete folding, as schematically seen in Fig. 7, the zipper now has upper and lower parts 44, 45 releasably interlocked with carrier web above and below the folded profile.

At the end of this folding phase a cutting element 47 slices the lower carrier web 17 and zipper flanges lengthwise so that the zipper's upper element 44 and lower element 45 are fully separated. After the cutting element 47, a sealing station 49 seal across the carrier webs at a point half way between zipper element sections. Downstream of this slicing phase is a final carrier web drive 48 which pulls the manufactured zipper product and feeds it to a spool for later combination with bag material.



## CLAIMS

Having thus described the invention, what is claimed is:

1. A method of forming a zipper bearing carrier web comprising the steps of:  
advancing a carrier web; and  
attaching discrete sections of zipper profile at predetermined spaced intervals to said carrier web.
2. A method in accordance with claim 1 comprising the further steps of advancing a second carrier web and positioning said discrete sections of zipper profile between said carrier webs.
3. A method in accordance with claim 2 comprising the further steps of simultaneously attaching each discrete section of zipper profiles to both carrier webs.
4. A method of forming a carrier web assembly with axially spaced discrete sections of zipper profile thereon, comprising the steps of:
  - a. providing a zipper having mated profiles with one of said profiles above the other of said profiles so as to provide lower and upper profiles;
  - b. cutting a first discrete length of said zipper, and at a first station applying said lower one of said profiles of said first discrete length of zipper to a first carrier web;
  - c. moving said first carrier web with said applied zipper to a second station and applying a second carrier web onto the upper one of said profiles; and
  - d. sealing said lower one of said profiles to said first carrier web and said upper one of said profiles to said second carrier web.

5. A method according to claim 4 wherein said mated zipper profiles each has a flange and said flanges overlies and are adjacent to each other, and further comprising the step of maintaining said two flanges apart from each other while said zipper profiles are sealed to said first and second carrier webs respectively.

6. A method according to claim 5 comprising the further step of separating said two flanges from each other before either is sealed to either of said carrier webs.

7. A method according to claim 5 comprising wherein said lower and upper profile flanges are sealed respectively to said first and second carrier webs at substantially the same time.

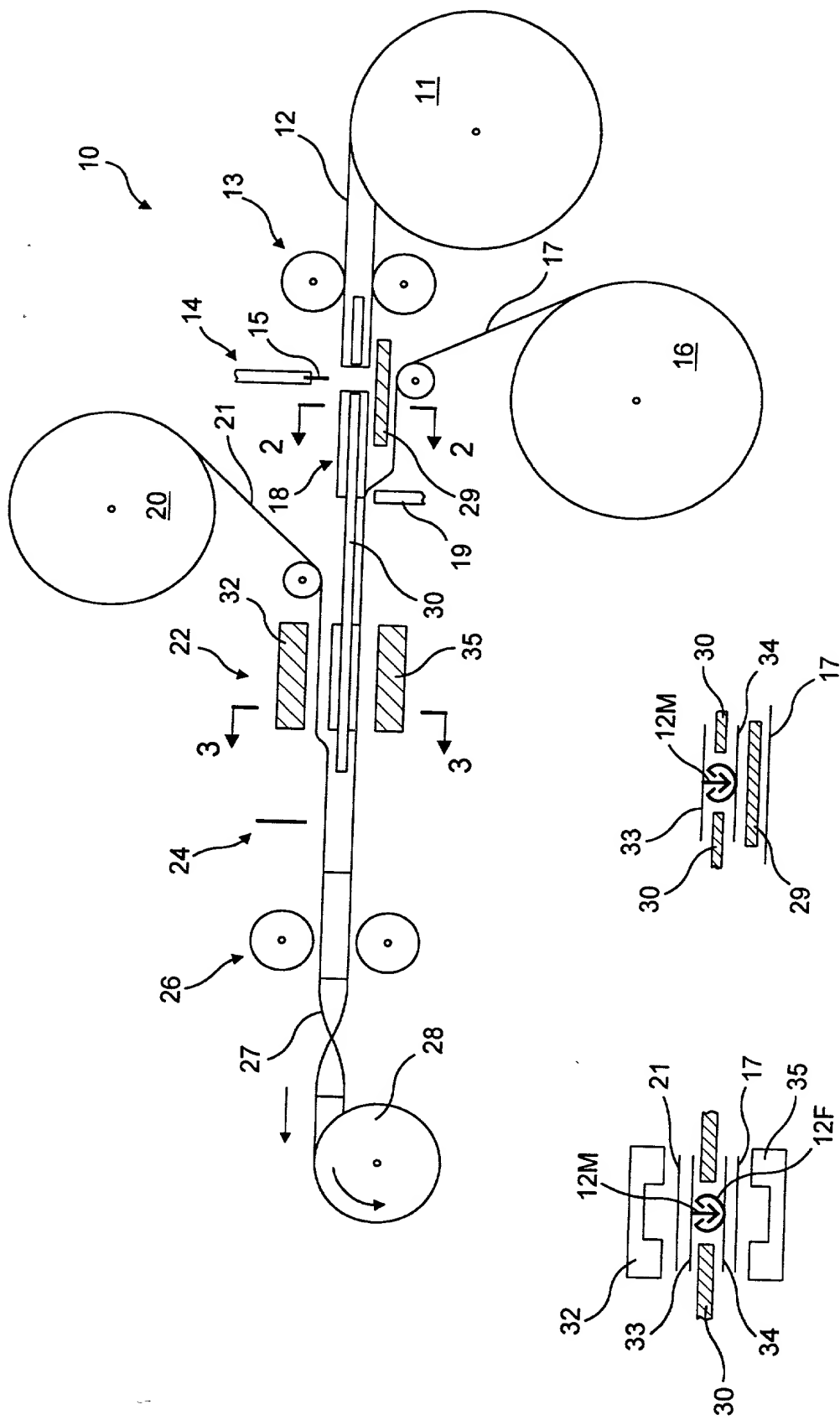
8. A method of forming a carrier web assembly with axially spaced discrete sections of zipper profile thereon comprising the steps of:

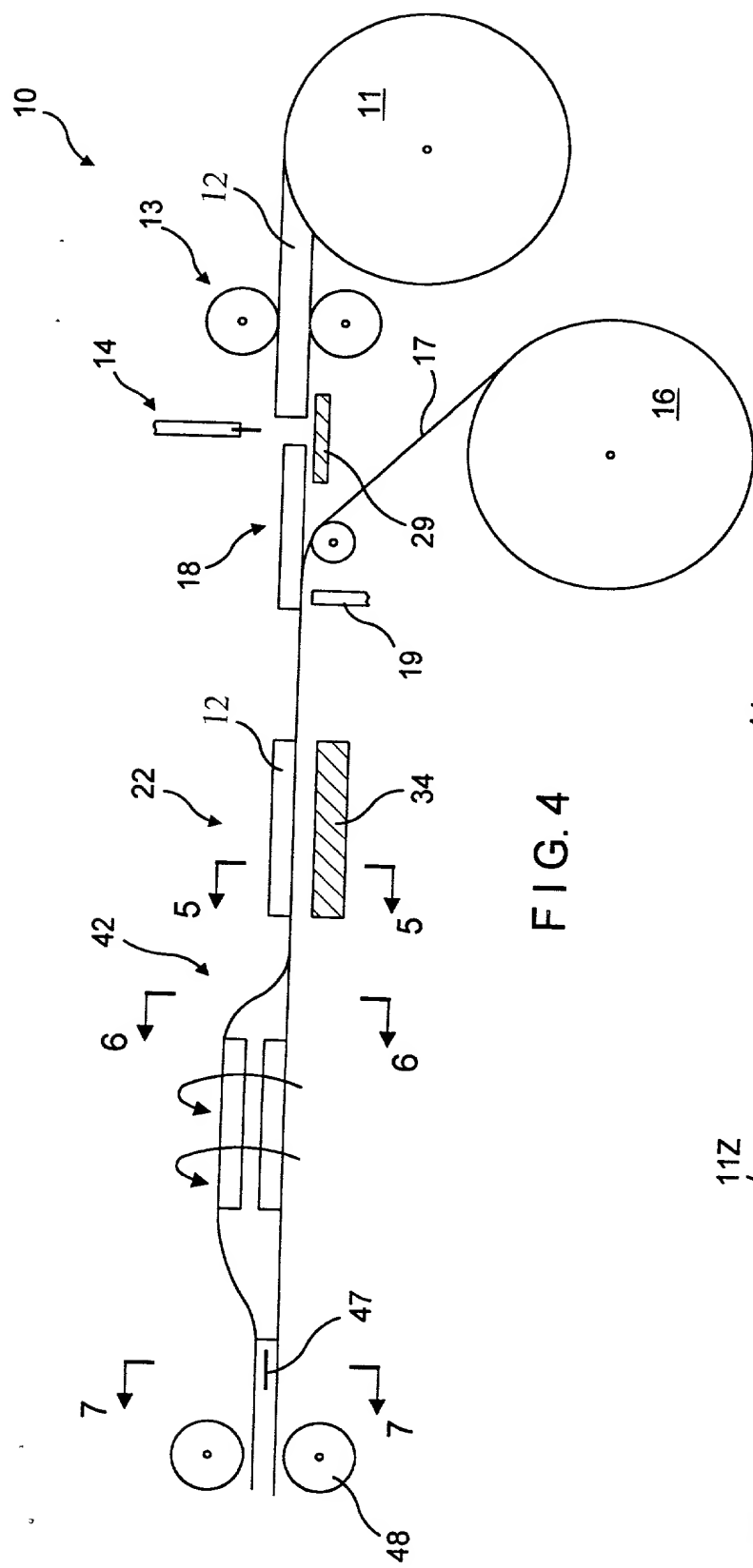
- a. providing a carrier web,
- b. providing a zipper element having a plurality of mating profile elements extending transversely there across,
- c. cutting a discrete length of said zipper,
- d. sealing said discrete length of zipper to said carrier web,
- e. folding said carrier webs with attached zipper along a longitudinal axis approximately 180° forming first and second parts thereof, with said profile elements on said first part releasably engaging said profile elements on said second part.

9. A method in accordance with claim 8 comprising the further steps of slicing said carrier web and zipper elements along a longitudinal line to sever said first part from said second part.

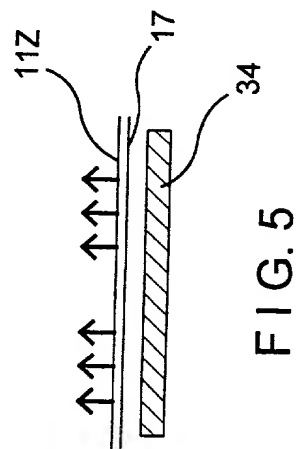
### ABSTRACT OF THE DISCLOSURE

A method of forming carrier web having discrete lengths of mating zipper profile thereon. The zipper profile is fed from a supply roll to overlie a carrier web, tacked to the web and then severed from its supply roll.





**FIG. 4**



**FIG. 5**

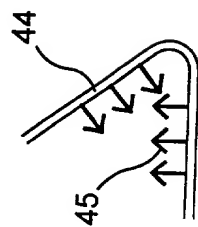
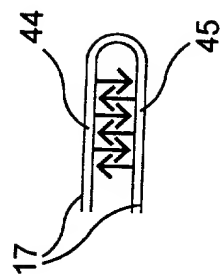


FIG. 6



**FIG. 7**

## COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor(s), I (We) hereby declare that:

My (Our) residence, post office address and citizenship are as stated below next to my (our) name(s). I (We) believe I (we) am (are) the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**METHOD OF MANUFACTURING CARRIER WEB ZIPPER FOR GUSSET BAGS**, the specification of which is attached hereto unless the following is checked:

\_ was filed on \_\_\_\_\_ as United States Application

Number or PCT International Application Number

and was amended on \_\_\_\_\_ (if applicable).

I (We) hereby state that I (we) have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I (We) acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)			
NUMBER	COUNTRY	DATE FILED	PRIORITY CLAIMED
			YES NO
			YES NO
			YES NO

I (We) hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

APPLICATION NO.	FILING DATE	STATUS PATENTED, PENDING, ABANDONED

I (We) hereby declare that all statements made herein of my (our) own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I (We) hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: Joseph C. Sullivan, Registration No. 18,720; J. David Dainow, Registration No. 22,959; Gerald Levy, Registration No. 24,419; Ronald R. Santucci, Registration No. 28,988; Ronald E. Brown, Registration No. 32,200; Matthew W. Siegal, Registration No. 32,941; John Gulbin, Registration No. 33,180. **\*I (We) further authorize my (our) attorney to insert the proper serial number and filing date awarded to my (our) application on this document, above my (our) signature(s).**

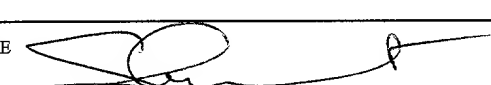
SEND CORRESPONDENCE TO: **Gerald Levy, Esq.**

**PITNEY, HARDIN, KIPP & SZUCH LLP**

711 Third Avenue  
New York, New York 10017-4059

DIRECT TELEPHONE CALLS TO: Gerald Levy

(212) 297-5824

FULL NAME OF SOLE OR FIRST INVENTOR <b>Steven Ausnit</b>		CITIZENSHIP <b>United States</b>
INVENTOR'S SIGNATURE 		DATE <b>Sept 14 / 00</b>
RESIDENCE <b>124 East 61<sup>st</sup> Street, New York, New York 10021</b>		
POST OFFICE ADDRESS <b>124 East 61<sup>st</sup> Street, New York, New York 10021</b>		
FULL NAME OF SECOND JOINT INVENTOR, IF ANY		CITIZENSHIP
INVENTOR'S SIGNATURE		DATE
RESIDENCE .		
POST OFFICE ADDRESS		
FULL NAME OF THIRD JOINT INVENTOR, IF ANY		CITIZENSHIP

769-264

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re of the application of: Steve Ausnit

Serial No. N/A

Filed: Herewith

For: **METHOD OF MANUFACTURING CARRIER WEB ZIPPER FOR GUSSET BAGS**

711 Third Avenue  
New York, New York 10017  
(212) 687-6000

**ASSOCIATE POWER OF ATTORNEY**

Assistant Commissioner for Patents  
Washington, D.C. 20231

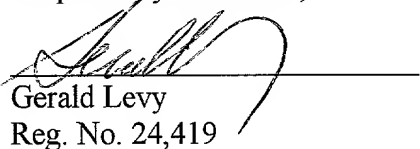
S I R:

I hereby appoint John P. O'Brien (Registration Number 22,764), Mark W. Croll (Registration Number 31,098), Donald J. Breh (Registration Number 30,159), Lisa Soltis (Registration Number 40,623), and Thomas W. Buckman (Registration Number 25,756), as my associate attorneys in the above-entitled application, to inspect and prosecute this application, to make alterations and amendments therein, and to transact all business in the Patent and Trademark Office.

Please continue to address all future communications to:

Gerald Levy, Esq.  
Pitney, Hardin, Kipp & Szuch LLP  
711 Third Avenue  
New York, New York 10017

Respectfully submitted,

  
Gerald Levy  
Reg. No. 24,419